As I have paid tribute in a past issue to the ‘Father of Phototherapy’, the late Professor Endré Mester, it is only fitting that I should also acknowledge another ‘Godfather’ and the man who really set my feet on the medical laser pathway, the late Professor Leon Goldman, the ‘Father of Laser Medicine’.

Before I do that, however, I would like to draw your attention to the report which appears in this issue of the journal on our successful 2nd congress of the International Phototherapy Association, IPTA, which was held in April of this year in beautiful Queenstown, New Zealand. The report is by our own Dr Yoshimi Asagai, the immediate Past-President of IPTA, is beautifully illustrated, and should certainly spur you all on to making sure that you mark next year in your diaries for the 3rd IPTA congress to be held in Florence, Italy, under the presidency of Dr Leonardo Longo, the current IPTA Secretary-General.

Now, back to Dr Leon Goldman. Born in Cincinnati, Ohio, in 1905, Dr Goldman went on to complete his medical education and residency at the University of Cincinnati, graduating in 1929. He then taught and practiced at the Department of Dermatology, the University of Cincinnati Medical Center, and was appointed Director of Dermatology there in 1945 remaining there till 1980, whereafter he became head of the Laser Treatment Center of the Jewish Hospital in Cincinnati. In the early 1990’s he became a consultant at the San Diego Naval Medical Center and remained active there till just before his death on Tuesday, 2nd December, 1997 in San Diego at the age of 91. The title of ‘Father of Laser Medicine’ was officially bestowed on him in 1979 at the Opto-Elektronic Conference in Munich, Germany.

The first laser was developed by Theodore Maiman in 1960, again celebrated in an earlier Laser Therapy Editorial, and as early as 1961 Goldman was ‘playing’ with this new potential dermatological tool in his research laboratory which very quickly became a Mecca for fledgling laser clinicians. He became the first researcher to use a laser to treat a human skin disease when he treated melanoma, and this approach formed the basis for his subsequent research and clinical successes in a wide variety of dermatological applications, including the removal of various birthmarks and the eradication of tattoos. Dr Goldman was a real firebrand of a researcher and a true advocate of this new clinical tool. His efforts to convince other clinicians to accept it and use it in their clinical practice were initially met with scepticism, as were his attempts to get laser surgery and medicine taught in medical schools. In an interview with the New York Times in 1985, he said; “We just should have kicked out the old medical school chiefs and gotten some new blood!” Despite that scepticism, or perhaps because of it, Goldman was the author of 6 ground-breaking books ranging from ‘Lasers in Medicine’ (Gordon & Breach, 1971) to ‘Laser
Non-surgical Medicine of particular interest to those working in phototherapy, which he edited for the Technomic Publishing Company in 1991. He firmly believed that bloodless surgery using lasers greatly aided medicine, particularly for such purposes as working in well-vascularized tissues and organs and removing damaged tissue from burn wounds due to the instant sealing and cauterizing of blood vessels and surrounding tissues achieved with a correctly applied laser beam. This tenet is embodied to the present day in the ‘Blood Saving Campaign (BSAC)’, one of the initiatives of the World Federation of Societies for Lasers in Medicine and Surgery (WFSLMS). Goldman was always intrigued by the results achieved beneficial side effects associated with laser surgery but which did not appear with any non-laser modality and he showed clearly it was the light, the ‘L’ of laser, which brought about these results. His studies inspired first of all Professor Mester to investigate dedicated laser therapy systems, and also brought about the classification of ‘auto-simultaneous laser therapy’ as part of the author’s comprehensive and treatment-based classification of the use of the laser in surgery and medicine.

However, Dr Goldman’s persistence paid off, and the laser took its rightful place amongst the medical and non-surgical armamentarium. He never lost sight of reality, however, and always recognized that the laser was not a magic wand. To that end, he had emblazoned on his laboratory wall the motto; “If you don’t need the laser, don’t use it,” something that all of us working in the laser field should always remember and adhere to. Recognition arrived, and Dr Goldman was elected President of the American Society of Dermatological Surgery, which in 1985 named its Leon Goldman Medal in his honor.

Goldman was one of the founding fathers of the American Society for Laser Medicine and Surgery (ASLMS), still going strong to this day and the sponsors of one of the ‘gold standard’ annual meetings for all working in the field of laser and light medicine and surgery. In March of 1979, Dr. Ellet H. Drake began working with Dr. Leon Goldman to establish an American society to encourage physicians and scientists to exchange knowledge, explore new uses for present equipment, and generate new medical lasers and accessories, and the first meeting of the ASLMS was held in San Diego in 1981, attended by medical laser pioneering invitees from all over the world, including the author. Each year the A. Ward Ford Foundation presents an award in Dr Goldman’s honor to the individual considered by the Awards Committee of the Society to have made an outstanding contribution to laser medicine. The first of these awards was presented in 1982 to Dr. Goldman at the 2nd Annual Conference at Hilton Head Island, South Carolina. The esteemed Leon Goldman Memorial Award was established in 1998 to honor Goldman’s many contributions to laser medicine and surgery. In the words of the Society: “The recipient must be a practicing physician who has demonstrated longitudinal excellence throughout their career in clinical laser research, high-quality laser patient care, and medical laser education. The individual must also share the characteristics of honesty, high ethical standards and a dedication to patients that were possessed by the award’s namesake.” A fitting tribute indeed to a great man. In addition to being founder and first president of the ASLMS, Goldman was editor of its ‘Newsletter’ from 1980.

The author has very strong personal ties with Dr Goldman, and it was in fact Goldman who solidified the author’s love of light and life, embodied in the laser beam, which was, and still remains as, one of the author’s strongest ideals. The late Professor Makoto Seiji (1926-1982) was one of the author’s mentors in
The late Professor Makoto Seiji (1926-1982) was one of the author’s mentors in the field of melanogenesis and was an eminent researcher in Oregon University (USA), Oxford University (UK) and Harvard University (USA) in addition to leading universities in Japan. In essence, Dr Seiji discovered the melanosome, and Seiji’s work inspired the author to start work on his first colour clinic, thus linking him with Goldman. The author heard of Dr Goldman’s work in the treatment of melanin anomaly group nevi at the University of Cincinnati, and arranged a sabbatical to go to Cincinnati to study under and then work with Dr Goldman from June 1974 to Feb. 1975. The ruby laser in particular caught the author’s attention, and on his return to Japan he wanted to order and import the same system as the one which he studied on under Dr Goldman's tutelage. Unfortunately, the manufacturer of that particular system had gone out of business, and so it was the Korad industrial system which the author imported into Japan, subsequently refining for clinical applications and thereby founding the first laser clinic in Japan with a ruby laser for dermatological applications. The friendship which developed between the author and Dr Goldman grew over the years, and Figure 2, taken in 1981, shows them together (Fig. 2). In 1981, the 4th congress of the International Society for Lasers in Surgery and Medicine (ISLSM) was held in Tokyo, ‘Laser Tokyo 1981’, at which Dr Goldman was one of the key speakers. He became fascinated with the Japanese system of personal seals or ‘hanko’, carefully carved individual chops which are used with a special red ink to ‘seal’ documents. As a token of their friendship, the author designed and had crafted a unique hanko for Dr Goldman, which used the traditional Japanese ideographs for ‘Golden Lion Man’ ʢۚۡ٠٠٠٠٠٠٠٠٠٠٠, and from then on Dr Goldman used to ‘sign’ his written correspondence with this hanko in addition to his signature.

In addition to his undying interest in medical laser applications, Dr Goldman found the laser to be an interesting artistic tool, and in his spare time created many pieces of ‘laser art’, some of which he presented to the author and are proudly exhibited in the author’s office. Goldman’s argon laser etching of plastics with different colored layers in a pigment-dependent manner unique to that laser, or carbon dioxide laser etching in crystal-clear plastic blocks to produce translucent swirls of white, lit from above or below, produced unique masterpieces of visual art (Fig. 3). He was indeed, a man for all seasons, and the author in particular, and the medical laser world in general, owe him an enormous debt of gratitude.

September, Tokyo, Japan
How to make a Laser Phalaenopsis.

Figs. 4, 5, 6 show the configuration within an acrylic cube, 5cm in width, length and height, created by the photo thermal reaction of a Ruby laser irradiations.

Fig. 4 shows the bottom face of the cube. Laser light was emitted to the point where the tip of the sharp pencil is pointing. The laser was focused at the surface of the cube where the photo thermal reaction began. The laser was emitted to the surface perpendicularly to the face of the cube.

Figs. 5A, 5B show the lateral view of Fig. 4. The photo thermal etching grows within the cube, reaching a point of only 8mm from the surface of the contralateral face of the cube.

Fig. 6 shows the laser etching pattern where Ruby laser light was emitted at the four corners shown in Fig. 4. However this time, laser was not focused at the surface of the cube but within the cube. Therefore no photo thermal laser etching occurred at the surface. This configuration of laser etching by 5 laser irradiation resembles Phalaenopsis growing upward inside the acrylic cube. This work can be seen as a piece of art created by the Ruby laser. Adjusting the position, direction, depth of focus of the laser light along with controlling the output of the laser allow creation of laser art. This piece was made by Ohshiro in 1983 in an attempt to emulate the work of Dr. Leon Goldman.